



NAEVR

National Alliance For
Eye And Vision Research

Serving as Friends of the National Eye Institute

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THE VISION COMMUNITY URGES FY2019 NIH FUNDING OF AT LEAST \$39.3 BILLION AND NEI FUNDING OF AT LEAST \$800 MILLION

FY2019 National Institutes of Health (NIH) Funding:

- The vision community thanks Congress for the \$2 billion NIH funding increases in each FY2016 and FY2017 and \$3 billion increase in FY2018.
- The vision community requests at least \$39.3 billion for the NIH, including dedicated funding through the *21st Century Cures Act* and in addition to other funding devoted to specific priorities. This funding level would continue a pattern of at least \$2 billion increases for the NIH each year—allowing for meaningful growth above inflation in the base budget—and ensuring that the Innovation Account supplements the base budget as intended by Congress through dedicated funding for specific programs.
- This ensures a pattern of sustained and predictable increases, enabling NIH/NEI to build upon past basic and clinical research that has accelerated the development of life-changing cures, train the next generation of scientists, drive the nation's economy by creating jobs and economic growth, and maintain U.S. leadership in global innovations.

FY2019 National Eye Institute (NEI) Funding:

- In 2018, the National Eye Institute (NEI) celebrates the 50th anniversary of its creation by Congress as the lead Institute for our nation's sight-saving and vision-restoring research. The vision community requests FY2019 NEI funding of at least \$800 million to continue to restore that commitment to vision research.
- Despite recent increases, NEI's FY2018 enacted funding of \$772.3 million is just ten percent greater than the pre-sequester FY2012 funding of \$702 million. Averaged over the six fiscal years, the 1.6 percent annual growth rate is less than the average annual biomedical inflation rate of 2.8 percent, thereby eroding purchasing power.
- NEI's FY2018 funding of \$772.3 million is just 0.53 percent of the \$145 billion annual cost of vision disorders, which is projected to grow to \$717 billion in inflation-adjusted dollars by year 2050—primarily driven by an aging population.
- Vision disorders have the fifth highest direct medical costs—only less than heart disease, cancers, emotional disorders, and pulmonary conditions. The U.S. spends only \$2.30 per-person, per-year for vision research, while the cost of treating low vision and blindness is \$6,680 per-person, per-year.
- Based on 2010 U.S. Census data, NEI has estimated that of the 143 million Americans age 40-plus, four million were blind or had significant vision impairment and 37 million had an age-related eye disease.
- The U.S. is the world leader in vision research. Without adequate funding, the NEI may not be able to train the next generation of vision scientists.

NEI FUNDING HAS RESULTED IN THE SUCCESSFUL COMMERCIALIZATION OF PRODUCTS TO SAVE SIGHT AND RESTORE VISION

NEI funding of investigator-initiated research grants and Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) grants has resulted in several commercialized products:

Optical Coherence Tomography (OCT)

OCT is an imaging technology that allows eye care providers to see the back of a patient's eye via a quick, non-invasive and inexpensive exam. This technology supports a private commercial market of \$1 billion per year and more than 16,000 high-paying jobs. A peer-reviewed publication has shown that OCT saved Medicare \$9 billion and patients \$2.2 billion in co-pays by reducing unnecessary injections of drug therapies.

Drug Therapies for AMD and Diabetic Eye Disease

Development of the first generation of Food and Drug Administration (FDA)-approved anti-angiogenic ophthalmic drugs to inhibit abnormal blood vessel growth in "wet" AMD, stabilizing vision loss and, in some cases, improving lost vision. These drugs are currently being fast-tracked for approval by FDA for diabetic eye disease, including Diabetic Retinopathy and Diabetic Edema.

Over-the-Counter Nutritional Supplement to Reduce AMD Progression

NEI's *Age-Related Eye Disease Study (AREDS)* showed that a formulation containing vitamins C and E, beta-carotene, and minerals zinc and copper, reduced progression to advanced-stage AMD. New data from a follow-up study, *AREDS2*, suggest that replacing beta-carotene with lutein and zeaxanthin may produce a safer, more effective formulation.

Pressure-reducing Glaucoma Drugs

NEI-funded research has resulted in drug therapies that reduce intraocular pressure, a significant risk factor in the development of glaucoma—the second leading cause of vision loss in the U.S.

Sutureless Amniotic Membrane Graft

The graft is essentially a "biological bandage" that sits on the surface of the eye—the cornea—reducing scarring, prevention of blood vessel formation, and promoting healing, while reducing pain.

Robotic Device to Facilitate Corneal Transplantation

The developer is using this device to transplant an artificial cornea, which is currently under FDA regulatory review, and which may obviate the need for donor corneal tissue.

Visual Aide Services Using Camera-Enabled Mobile Phones

This Smartphone application enables users to identify everyday objects, such as packaged goods, compact discs, and money, with text-reader capabilities using Optical Character Recognition (OCR).

Virtual Phaco Trainer for Cataract Surgery

This simulator enables ophthalmology residents to practice the difficult steps of standard cataract surgery without risk to patients.

Field Expansion Prism Glasses for Hemianopia

High power prisms incorporated into prescription eyeglasses increase the visual field by creating artificial peripheral vision in these patients who experience loss of peripheral vision on the same side of both eyes, a common side effect of stroke or Traumatic Brain Injury (TBI).